May 1995

Family Health Dataline

IN THIS ISSUE:

This issue of Dataline presents analyses of 1990-91 data from the Pregnancy Risk Assessment Monitoring System (PRAMS). This data was presented at the Indian Health Service Research Conference in Tucson during April 1994 and the Colorado Fetal Alcohol and Substance Abuse Coalition Conference in Denver during September 1994.

- 10% of Alaskan women report drinking alcohol during their last trimester of pregnancy.
- 18% of women who drank during the third trimester of pregnancy reported that a doctor or nurse did not counsel them about the possible effects of drinking during pregnancy.
- Women who drank during the third trimester were almost twice as likely to have experienced domestic violence during the past two years than those who did not drink.

Drinking During Pregnancy Linked to Other Health Risks:

Results from the Alaska PRAMS Survey

The Alaska Pregnancy Risk Assessment Monitoring System (PRAMS) Project is an ongoing survey of mothers of newborns initiated by the Alaska Division of Public Health, Section of Maternal, Child and Family Health in 1990. PRAMS was developed by the Centers for Disease Control and Prevention (CDC), Division of Reproductive Health to gather information on the health risk behaviors and circumstances of pregnant and postpartum women. Currently 13 states [1] and the District of Columbia have implemented PRAMS; each state utilizes the same 54 core questions, and adds a limited number of its own state-specific questions. Topics include family planning; prenatal care; use of tobacco, alcohol, and drugs; participation in WIC and Medicaid; payment for care; family income; breastfeeding; life stressors such as illness, job loss, debt, divorce, and domestic violence; and many others.

Survey Methodology

All PRAMS participants are selected through a sampling technique called "stratified random sampling" in which all birth records are divided into categories, or "strata". Alaska chose to stratify on mother's race and the amount of prenatal care she received (as reported on the birth certificate) because statistical tests using data from vital records revealed that these factors were most closely associated with postneonatal mortality, which remains disturbingly high in Alaska. Alaska PRAMS uses the following four strata for sampling purposes: Alaska Native with less-than-adequate prenatal care, Alaska Native with adequate prenatal care, non-Native with less-than-adequate prenatal care, and non-Native with adequate prenatal care. Adequacy of prenatal care is defined on the basis of the Kessner index [2] which takes into account the trimester of the first prenatal visit and the total number of prenatal visits based on the length of the pregnancy.

A random sample of birth certificates is then drawn from each of these groups, and the selected mothers are mailed PRAMS surveys when the infant is, on average, 5 months of age. Because a relatively small percentage of the total population of mothers had less-than-adequate prenatal care reported on the birth certificate, a simple random sample would not yield sufficient numbers of responses from these women to tell us about their lifestyles and

behaviors as a group. Stratified random sampling provides a means to collect more meaningful information about high risk population groups by sampling a greater proportion of those among the smaller high-risk groups. A weighting process is then used to recombine the resulting responses from all strata to reflect the total population of Alaskan mothers of newborns during a specific time period.

Baseline Data for Alaska

Data from the responses of mothers whose babies were born in Alaska during 1990 and 1991 became available for analysis during November 1993. The overall response rate was 75%. The responses of these 2,975 mothers have been weighted to reflect the total statewide population of Alaskan women with live births during this period. The first data tabulated were the results offered in the Healthy Alaskans 2000 planning document[3] as baseline data for Alaska 1990-1991:

- 21.3% of women reported smoking cigarettes during their last trimester of pregnancy
- 10.0% of women reported drinking alcohol during their last trimester of pregnancy
- 6.3% of women reported smoking marijuana during pregnancy
- 0.9% of women reported using cocaine during pregnancy
- 14.8% of mothers reported being hurt by someone close to them in the last two years.[4]

What does PRAMS show about alcohol use?

We chose drinking behavior as the first topic for extensive analysis and presentation. PRAMS questions regarding drinking were limited to two time periods: the 3 months before pregnancy and the last 3 months of pregnancy.

For analysis, 1990-91 respondents were divided into three mutually exclusive categories: non-drinkers (those responding "no" to drinking during the 3 months before and the last 3 months of pregnancy), drinkers-who-quit (those responding "yes" to drinking 3 months before pregnancy and "no" to drinking during the last 3 months of pregnancy), and 3rd-trimester-drinkers (those responding "yes" to drinking during the last 3 months of pregnancy).

Overall, 43% of Alaskan mothers were non-drinkers (n=1,379), 40% were drinkers-who-quit (n=1,052), and 10% were 3rd-trimester-drinkers (n=270); 7% did not answer at least one of the drinking questions.

Who drinks?

We noted an increase in reports of third trimester drinking with an increase in age: 14.7% of mothers 30 years and older were 3rd-trimester-drinkers compared with 8.5% of 20-29 year-olds and 3.9% of <20 year-olds. The same pattern was also seen with an increase in education. Twelve percent of mothers with >12 years of education were 3rd-trimester-drinkers compared with 9.7% of those with a high school education and 5.3% of those with less than 12 years of education.

We found that Natives were less likely to report drinking during the third trimester (8.3%) than non-Natives (11.4%).

Do mothers report prenatal counseling about drinking?

Overall, 92% of respondents reported that a doctor or nurse had asked them about their alcohol consumption when they went for prenatal care. One-in-20 mothers (4.9%) reported they were not asked by their prenatal care provider if they drank alcoholic beverages. (Another 3.1% did not answer the question.) Overall, 19.7% reported that a doctor or nurse did not counsel them about the effects of drinking on their baby. The percentages were comparable for women who drank either before or during pregnancy: 17.8% of drinkers-who-quit and 17.9% of 3rd-trimester-drinkers reported not being counseled about how drinking could affect their baby.

Is drinking related to other substance use?

We noted a relationship between drinking and smoking behavior:

- 60% of non-drinkers reported they had never smoked, compared with 44% of drinkers-who-quit and 41% of 3rd-trimester-drinkers.
- Only 17% of non-drinkers smoked during their last trimester of pregnancy, while 22% of drinkers-who-quit and 32% of 3rd-trimester-drinkers smoked during their last trimester.

Third-trimester-drinkers were five times more likely than non-drinkers to use marijuana or cocaine during any trimester of pregnancy (13.9% compared with 2.8%).

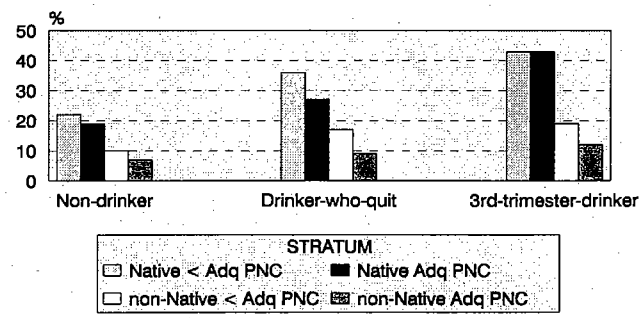
Is drinking linked to domestic violence?

Mothers who drank were more likely than non-drinking mothers to have reported experiencing domestic violence[4]: 19.5% of 3rd-trimester-drinkers, 14.8% of drinkers-who-quit, and 11.6% of non-drinkers reported experiencing domestic violence during the previous 2 years. Third trimester drinkers were 1.7 times more likely than non-drinkers to have experienced domestic violence during the previous two years than non-drinkers.

There were large differences in the experience of domestic violence among the four groups of women in our sample (Figure 1):

- Among Native women receiving less-than-adequate prenatal care, 22% of the non-drinkers reported domestic violence during the last two years, compared with 36% of the drinkers-who-quit and 43% of 3rd-trimester-drinkers. Among Native women with adequate prenatal care, 19% of the non-drinkers reported being hurt by someone close, as did 27% of drinkers-who-quit and 43% of 3rd-trimester-drinkers. (Figure 1)

Figure 1: Percent experienced domestic violence by drinking category and stratum, ALASKA, 1990-1991, PRAMS data.



- Among non-Native women with less-than-adequate prenatal care, 10% of the non-drinkers, 17% of the drinkers-who-quit, and 19% of the 3rd-trimester-drinkers reported domestic violence; among non-Native women who received adequate prenatal care, 7% of non-drinkers, 9% of drinkers-who-quit, and 12% of 3rd-trimester-drinkers experienced domestic violence.

Is drinking related to stressors in the mother's life?

Many lifestyle stressors encountered during the 12 months before delivery (Table 1) tend to be more prevalent among 3rd-trimester-drinkers. For 11 out of 18 stress factors listed on the survey, this group cited the highest percent, including someone close with a drinking or drug problem, separation from the partner, involvement in a physical fight, injury by the partner, loss of their job, and homelessness. Third-trimester-drinkers also tended to cite a somewhat greater number of separate life stressors than non-drinkers and drinkers-who-quit; 28.2% of 3rd-trimester-drinkers reported at least three of these stressors, compared with 24.4% of drinkers-who-quit and 20.5% of non-drinkers.

Table 1: Percent of PRAMS respondents citing top 5 stressors during 12 months before delivery, 1990-1991 deliveries.

LIFE STYLE STRESSOR	NON-DRINKER	DRINKER-WHO-QUIT	3RD-TRIMESTER-DRINKER	TOTAL (WEIGHTED)
1. Family member very sick	25.8	24.7	25.5	25.4
2. Someone close drinking/drugs	17.5	19.9	25.8	20.3
3. Separated from partner	13.5	16.9	19.2	16.0
4. Got into debt	13.5	15.2	18.2	15.1
5. Family member died	13.6	14.9	14.1	14.5

Shading indicates the highest % of citations by drinking category.

Discussion

The most notable findings from these early analyses are: 1)Alaska Native women were less likely than non-Natives to report drinking in the third trimester (PRAMS' only measure of drinking during pregnancy). 2) 3rd-trimester-drinkers were nearly twice as likely to have experienced domestic violence during the past 2 years than non-drinkers. 3) Among those who drank during pregnancy, Native women were more likely than non-Native women to have experienced domestic violence.

These findings are important to persons involved with the prevention of Fetal Alcohol Syndrome. They suggest prenatal alcohol consumption is part of a complex pattern of sociocultural factors including age, education, domestic violence, various life stressors, and lack of prenatal counseling by health care providers. Prenatal alcohol prevention programs that address these issues may have the best chance of succeeding in their efforts to prevent alcohol, consumption during pregnancy.

These data do not purport causal relationships and are limited by self-reporting. In addition, detailed analyses regarding quantity of alcohol consumption during the third trimester are still being conducted.

Future Datalines will feature PRAMS data on a variety of topics. For additional information about the Alaska PRAMS Project, please contact Kathy Perham-Hester at the address given on this newsletter.

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Endnotes

1. Alabama, Alaska, California, Florida, Georgia, Indiana, Maine, Michigan, New York, Oklahoma, South Carolina, Washington, and West Virginia.

2. The Kessner index determines three levels of prenatal care (adequate, intermediate, inadequate) based on gestational age of the infant, month received first prenatal care visit and number of prenatal visits. Less-than-adequate prenatal care combines the intermediate and inadequate categories. Alaska Bureau of Vital Statistics 1988-1989 Annual Report. Appendix D, pp.184-186.

3. Healthy Alaskans 2000: Charting the Course of Public Health for the Decade. State of Alaska Department of Health and Social Services, Division of Administrative Services, 1994:133.

4. Mothers of newborns responding "yes" to having been physically hurt by their husband or partner during the 12 months before delivery and/or indicating they had been hurt during the last two years either before, during, or since their pregnancy by someone close to them.

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